

ABSTRACT

1 The invention is a method and apparatus for determining an electrical property a
2 formation surrounding a borehole with a measuring-while-drilling device. The apparatus
3 an antenna configuration disposed along the outer face of an extendable stabilizer joined
4 to a rotatable drill collar. Typically, two receivers and two transmitters are spaced along
5 the longitudinal axis of the drill collar, with the two receivers spaced symmetrically in
6 between the two transmitters. Alternatively, receivers and transmitters can be spaced
7 along the circumference, possibly over multiple stabilizers. Multiple assemblies can be
8 used. Data can be obtained with the transmitter-receiver assembly held in a stationary
9 position or rotating circumferentially. Apparatus can be operated in a "broadside"
10 configuration, an "endfire" configuration, or a configuration in which transmitter coils
11 and receiver coils are oriented orthogonally to each other.